

Plant Distribution on Penguin Island.—On 19th August, 1973, senior students of Como High School carried out a belt transect of the plants on the dunes of Penguin Island, Safety Bay, as part of a field biology exercise, and the results obtained are presented here mainly because they are so strikingly different from the results obtained in a similar study by the Western Australian Naturalists' Club, reported by Penny Hussey ("Excursions, Penguin Island, Safety Bay," *W. Aust. Nat.*, 12, 1973: 117-120).

The transect chosen was only about 60 m south of the Naturalists' Club transect. It was due east-west, 3 m wide, and plants were listed at 3 m intervals right across the island. Annual herbs and grasses were not recorded.

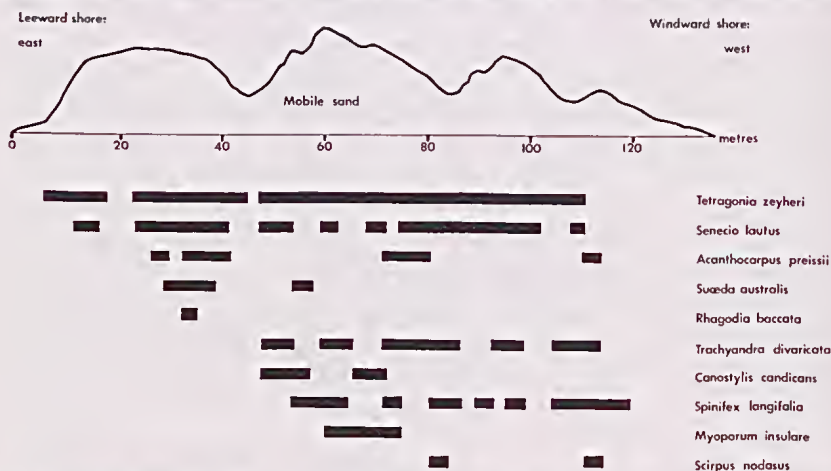


Fig. 1.—Distribution of perennial plants along 135 x 3 m transect. Vertical scale exaggerated by approx. 1.5

Of the 18 species listed by Miss Hussey, only seven were observed, and three other species were listed which were not found on the more northerly transect. Not only had the area a less diverse flora, but it was clear that the plant cover was much lower and sparser (though in neither survey was an actual measurement of population densities attempted). The mobile sand extended right across the island, and no stable community dominated by *Acacia* had developed on the leeward slopes. It may be that these dunes have been deposited in their present position too recently for the development of the more varied flora found just a little further north. Alternatively, the succession may have reached its climax, but the island, being a little narrower and lower at this point, perhaps does not provide the sheltered conditions required for some of the plants found in the *Acacia* community. If so, it would indicate that quite a small change in the topographic conditions is all that is required for the plant association typical of windward slopes to occupy leeward slopes. The island is 135 m wide and has a maximum altitude of about 14 m along this transect; along the Naturalists' Club transect it is 160 m wide and rises 18 m above sea level.

—L. E. SEDGWICK, South Perth.

Extension of Range of some Kimberley Birds.—The Department of Fisheries and Fauna commissioned me to carry out a faunal survey of the Point Coulomb Reserve, which is located on the west coast of Dampier Land, about 50 miles north of Broome. The survey was completed in June-July, 1971, and the vertebrates collected were lodged in the Western Australian Museum. Among the birds were six species previously unknown from Dampier Land (the peninsula lying to the south and west of King Sound).

Broad-billed Flycatcher (*Myiagra ruficollis*)—A male (A 11587 in W.A. Museum) was collected in the Cape Baskerville mangroves on June 24.

Brown-tailed Flycatcher (*Microeca tormenti*)—A female (A 11597) was collected in the Cape Baskerville mangroves on June 27.

Black-headed Pardalote (*Pardalotus melanocephalus*)—Common in the Reserve, a female (A 11585) being collected at Cape Baskerville on June 22, and another (A 11605) at 12 miles east-southeast of Cape Bertholet on July 4.

Red-headed Honeyeater (*Myzomela erythrocephala*)—It was common in mangroves, a male (A 11589) being collected at Cape Baskerville on June 25.

Rufous-throated Honeyeater (*Conopophila rufogularis*)—A few were observed along creeks, a juvenile female (A 11604) being collected at 12 miles east-southeast of Cape Bertholet on July 3.

Olive-backed Oriole (*Oriolus sagittatus*)—Two birds were seen in the Cape Baskerville mangroves on June 27; one of them (a female, A 11599) was collected.

Four species, though previously known from Dampier Land through the work of Rudolf Soderberg in 1911, were not hitherto known to occur south of Beagle Bay.

Northern Fantail (*Rhipidura rufiventris*)—A male (A 11613) was collected in the Cape Bertholet mangroves on July 16.

Leaden Flycatcher (*Myiagra rubecula*)—It was moderately common in thickets, a pair (A 11601-2) being collected at 12 miles east-southeast of Cape Bertholet on July 2.

White-throated Warbler (*Gerygone olivacea*)—Moderately common in wooded country throughout the Reserve, a female (A 11584) being collected at Cape Baskerville on June 22.

White-gaped Honeyeater (*Stouiopera unicolor*)—Common in dense coastal vegetation, a male (A 11609) being collected at Point Coulomb on July 14.

I am grateful to Dr A. A. Burbidge (Department of Fisheries and Fauna) for the opportunity to work on the Reserve, and to Dr G. M. Storr (Western Australian Museum) for data from his unpublished paper on the birds of the Kimberley Division in addition to his personal encouragement and assistance.

—W. H. BUTLER, Wanneroo.

Silver Gulls using a Thermal.—The use of air currents and thermal pockets is a well documented phenomenon, and I was able to witness this behaviour by a number of Silver Gulls, *Larus novaehollandiae*. The observation took place at a steel foundry on the water-front at South Fremantle on 12 October, 1972, between 13.40 and 13.52 hrs. It was a hot, still afternoon with a maximum temperature of 26.5° C recorded in Perth for that day.

Inside the foundry preparations were being made to charge the furnace with steel and the furnace had been heated in readiness. During this operation, three exhaust fans situated above the furnace are activated to expel dust and smoke into the atmosphere at a rate of approximately 432 cubic metres per minute (50,000 c. ft./min.) through an opening with an area of approximately 3.5 sq. metres. Usually this column of hot air is quickly dispersed by the prevailing wind, but under the calm and windless conditions at the time the thermal produced by the fans remained undisturbed.

Silver Gulls are common along the beach-front and my attention was drawn to a number of birds that were circling above the foundry. Between 50 and 60 birds were soaring in an area roughly 12 metres in diameter at heights ranging from 25 to 50 metres above the ground. Most of the birds in the thermal circled on stiff wings, flapping to regain the column of hot air when they drifted away from it.

Some birds were indulging in spectacular dives near the outer edge of the thermal. A bird would fliek over onto its back and drop vertically with its wings half closed, descending five or six metres at a time in three or four stages. At the end of each stage the bird would fling out its wings and pull up short, either to dive again or sail in a circle within the thermal, often without regaining height. Not all gulls in the vicinity were engaging in these flights, and a number were seen patrolling the beach and surrounding area.

The column of birds above the foundry drifted very slowly westward, spreading further apart as the thermal dispersed. At about 13.50 hrs the smoke from the furnace increased in volume, producing a thick brown cloud that drifted to the west, driven by a light off-shore breeze. The circling